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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,249	01/16/2002	Horst Greiner	DE 010022	9227

24737 7590 04/15/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

LEE, Y MY QUACH

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,249

Applicant(s)

GREINER, HORST

Examiner

Y Quach Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 1 to 20 are withdrawn in view of the newly discovered references to Hardesty, Nagai and the copending application serial number 10/050,260 and, therefore, the finality of the office action of March 1, 2004 is withdrawn. Rejections based on the newly cited reference(s) follow.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of “a housing ... an optical waveguide plate disposed within the housing ...” as claimed in claim 13 (note line 23 of page 4 of the specification) and “the second reflecting layer provided on inside walls of the housing” as claimed in claim 18 (note line 23 of page 4 of the specification) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 11 is objected to because of the following formalities: In claim 11, the term “third” is improper in view of there is no “second reflecting layer” in both claim 11 and claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hardesty in view of Nagai.

Hardesty discloses a lighting device comprising a light emission surface (64), a plurality of light sources of different colors (68, 69, 70, 71), an optical waveguide plate (62) into which a plurality of cylindrical cavities (figure 6) is provided, each cavity accommodating a light source,

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each cavity having an upper side facing the light emission surface and side walls extending substantially perpendicularly to the light emission surface, and the upper sides of the cavities extending substantially parallel to the light emission surface. Note that since the cavities are provided from the lower side to the upper side of the optical waveguide plate, the cavities are indeed provided in a lower side of the optical waveguide plate. However, Hardesty does not disclose that the upper side of the cavity being coated with a first reflecting layer.

Nagai teaches a cavity accommodating a light source (65) and having an upper side being coated with a first reflecting layer (62) and side walls (61) where light coupling or transmitting takes place.

It would have been obvious to one skilled in the art to provide the upper side of each cavity of Hardesty with a first reflecting layer, as shown by Nagai, for reflecting light and preventing the light emitted from the light source from transmission or leaking therethrough so that coupling of the light into the optical waveguide plate takes place through the side walls.

With regards to claim 12, the recitation "A liquid crystal display device" recites in the preamble and therefore has not been given patentable weight. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

6. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hardesty in view of Nagai, as applied to claim 1 above, and further in view of Kawano et al. (prior art previously cited).

Hardesty as modified by Nagai discloses the invention substantially as claimed with the exception of having the cavities coated with a second reflecting layer at their lower sides opposite to the upper sides and the second reflecting layer extending over the side faces and a lower side of the optical waveguide plate.

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Kawano et al. teach the cavities (13) coated with a reflecting layer (17) at their lower sides opposite to the upper sides and this reflecting layer extending over the side faces (11c) and a lower side (11b) of the optical waveguide plate (11).

It would have been obvious to one skilled in the art to provide the lower side of the cavities and the side faces and a lower side of the optical waveguide plate of Hardesty with a reflecting layer, as shown by Kawano et al., so that light can be reflected back to the optical waveguide for preventing light leakage.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hardesty in view of Nagai, as applied to claim 1 above, and further in view of Kawano et al. (prior art previously cited).

Hardesty as modified by Nagai discloses the invention substantially as claimed with the exception of having the edges of the cavities lying opposite the upper side surrounded by a third reflecting layer.

Kawano et al. teach the cavities (13) coated with a reflecting layer (17a) at their lower sides, opposite to the upper sides, which is also the edges of the cavities.

It would have been obvious to one skilled in the art to provide the edges of the cavities, which is the lower side of the cavities, opposite the upper sides of Hardesty with a reflecting layer, as shown by Kawano et al., so that light can be reflected back to the optical waveguide for coupling therethrough.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1 to 7 and 12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 7 and 12 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

Claims 1 to 7 and 12 of copending application '260 disclose the invention substantially as claimed with the exception of having the light sources of different colors and that the light sources comprised of a plurality of red, green, and blue light emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities.

Kawano et al. teach a plurality of light emitting diodes comprised of a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34) which are distributed such that no light sources of the same color lie in mutually adjoining cavities (figures 14 to 17, 19, 20 ...).

It would have been obvious to one skilled in the art to provide the light sources of claims 1 to 7 and 12 of copending application '260 with the light sources comprised of red, green and blue light emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities, as shown by Kawano et al., for providing a desired color at a uniform brightness throughout the area of the light emission surface.

10. Claims 1, 3, 7 and 8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 8 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

Claim 8 of copending application '260 discloses the invention substantially as claimed with the exception of having the light sources of different colors.

Kawano et al. teach a plurality of light emitting diodes comprised of a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34).

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It would have been obvious to one skilled in the art to provide the light sources of claim 8 of copending application '260 with the light sources comprised of red, green and blue light emitting diodes, as shown by Kawano et al., for providing a desired color at a uniform brightness throughout the area of the light emission surface.

11. Claims 1 and 9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

Claim 9 of copending application '260 discloses the invention substantially as claimed with the exception of having the light sources of different colors.

Kawano et al. teach a plurality of light emitting diodes comprised of a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34).

It would have been obvious to one skilled in the art to provide the light sources of claim 9 of copending application '260 with the light sources comprised of red, green and blue light emitting diodes, as shown by Kawano et al., for providing a desired color at a uniform brightness throughout the area of the light emission surface.

12. Claims 1, 10 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10 and 11 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

Claims 10 and 11 of copending application '260 disclose the invention substantially as claimed with the exception of having the light sources of different colors.

Kawano et al. teach a plurality of light emitting diodes comprised of a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34).

It would have been obvious to one skilled in the art to provide the light sources of claims 10 and 11 of copending application '260 with the light sources comprised of red, green and blue light emitting diodes, as shown by Kawano et al., for providing a desired color at a uniform brightness throughout the area of the light emission surface.

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13. Claims 13 to 18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 8 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

Claim 8 of copending application '260 discloses the invention substantially as claimed with the exception of having the light sources of different colors such as red, green, and blue light emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities, and the optical waveguide plate having the light emission surface and disposed within a housing with the second reflecting layer provided on inside walls of the housing.

Kawano et al. teach an optical waveguide plate (11) having a light emission surface (11a) and disposed within a housing (16a) with a reflecting layer (17a, 17b) provided on inside walls of the housing and a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34) which are distributed such that no light sources of the same color lie in mutually adjoining cavities (figures 14 to 17, 19, 20 ...).

It would have been obvious to one skilled in the art to provide the optical waveguide plate of claim 8 of copending application '260 with the light emission surface and disposed within a housing with the reflecting layer provided on inside walls of the housing and the light sources of claim 8 of copending application '260 comprised of red, green and blue light emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities, as shown by Kawano et al., for not only protecting the optical waveguide plate while preventing light leakage but also for distributing a desired color at a uniform brightness throughout the area of the light emission surface.

14. Claims 13, 15 and 19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13, 14 and 19 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

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Claims 13, 14 and 19 of copending application '260 disclose the invention substantially as claimed with the exception of having a plurality of light sources of different colors with the optical waveguide plate having the light emission surface and disposed within a housing.

Kawano et al. teach an optical waveguide plate (11) having a light emission surface (11a) and disposed within a housing (16a) and a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34).

It would have been obvious to one skilled in the art to provide the optical waveguide plate of claims 13, 14 and 19 of copending application '260 with the light emission surface and disposed within a housing and the light source of claims 13, 14 and 19 of copending application '260 comprised of red, green and blue light emitting diodes, as shown by Kawano et al., for not only protecting the optical waveguide plate while preventing light leakage but also for distributing a desired color at a uniform brightness throughout the area of the light emission surface.

15. Claims 13 and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of copending Application No. 10/050,260 in view of Kawano et al. (prior art previously cited). This is a provisional obviousness-type double patenting rejection.

Claim 10 of copending application '260 discloses the invention substantially as claimed with the exception of having the light sources of different colors with the optical waveguide plate having the light emission surface and disposed within a housing.

Kawano et al. teach an optical waveguide plate (11) having a light emission surface (11a) and disposed within a housing (16a) and a plurality of red, green and blue light emitting diodes (column 12, lines 32 to 34).

It would have been obvious to one skilled in the art to provide the optical waveguide plate of claim 10 of copending application '260 with the light emission surface and disposed within a housing and the light sources of claim 10 of copending application '260 comprised of red, green and blue light emitting diodes, as shown by Kawano et al., for not only protecting the optical waveguide plate while preventing light leakage but also for distributing a desired color at a uniform brightness throughout the area of the light emission surface.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y Quach Lee whose telephone number is 571-272-2373. The examiner can normally be reached on Tuesday and Thursday from 8:30 am to 4:30 pm.

Any inquiry concerning this status of this application should be directed to the Customer Service whose telephone number is 571-272-2815.

Y. Q.
April 6, 2004



Y Quach Lee
Patent Examiner
Art Unit 2875